CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO._____

GENERAL ORDER

FOR
EXISTING CONCENTRATED ANIMAL FEEDING OPERATIONS (MILK COW DAIRIES)

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code (CWC) Section 13267. The Discharger shall not implement any changes to this MRP unless a revised MRP is issued by the Executive Officer. For purposes of evaluating compliance with Order No. _____, the Discharger shall conduct monitoring and reporting as specified below.

A. MONITORING PROVISIONS

Inspections

The results of all inspections described below shall be recorded and the records shall be maintained on-site for a period of five years.

1. The Discharger shall inspect the production area weekly including all waste holding areas and note any changes that could result in discharges from property under the control of the Discharger.

2. Monthly and during each significant storm event[1], the Discharger shall make visual inspections of all storm water containment structures. These structures shall be inspected for discharge, freeboard, berm integrity, cracking, slumping, excess vegetation, burrowing animals, and seepage.

3. Freeboard shall be measured weekly within each liquid manure storage structure using a depth marker. Freeboard shall be the vertical distance from the pond surface to the lowest elevation of the surrounding berm or the bottom of the spillway and shall be measured to the nearest 0.1 foot.

Manure and Process Wastewater Monitoring

4. The Discharger shall monitor all wastes produced at the facility including process wastewater and manure. Sufficient monitoring shall be performed to determine the nutritive and salt content of process wastewater and manure separately. Manure must be analyzed at least once annually for nitrogen and phosphorus content. Process wastewater samples shall be collected at the discharge location, prior to any dilution or addition of irrigation water, and shall be representative of the process wastewater applied to the cropland. Monitoring shall include, at a minimum, the following:

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1 A significant storm event is defined as a storm event that results in continuous discharge of storm water for a minimum of one hour, or intermittent discharge of storm water for a minimum of three hours in a 12-hour period.

Constituent	Units	Type of Sample	Minimum Sampling Frequency
Flow (wastewater)	acre-feet/day	Measurement	Each Event[1]
Weight[2] (manure)	tons	Measurement	Each Event
Nitrate (N)	mg/l or mg/kg[3]	Composite[4]	Each Event
Ammonia (N)	mg/l or mg/kg	Composite	Each Event
Total Kjeldahl Nitrogen	mg/l or mg/kg	Composite	Each Event
Phosphorus	mg/l or mg/kg	Composite	Each Event
Total Dissolved Solids	mg/l or mg/kg	Composite	Each Event
Electrical Conductivity	umhos/cm	Composite	Each Event
pH	pH units	Composite	Each Event
General Minerals[5]	mg/l or mg/kg	Composite	Each Event

[1] Flow and wastewater constituents shall be measured to gauge the hydraulic and nutrient application to the cropland during each irrigation event. Nutrient loading is to be consistent with the uptake capacity for the crop during the growing season. The wastewater application dates, total acre-feet of wastewater applied to each field, and concentrations of wastewater constituents shall be recorded for each application.

[2] Shall include moisture content.

[3] Units are milligrams per liter (mg/l) for liquids and milligrams per kilogram (mg/kg) for solids.

[4] A representative composite sample shall be prepared based on a minimum of three time-series samples collected during an irrigation event that are representative of the beginning, middle, and end of the wastewater discharge. Due to the stratification of ponds, a time-series composite is needed so that representative nutrient loading rates may be calculated.

[5] General minerals include calcium, magnesium, sodium, potassium, bicarbonate, carbonate, sulfate, and chloride reported individually.

Monitoring results, including all laboratory reports, shall be included in the Annual Monitoring Report.

Soil Monitoring

5. At least once every five years, commencing with the first full calendar year regulated by Order No. _____, the Discharger shall collect and analyze representative soil samples for phosphorus, nitrate, ammonia, and total Kjeldahl nitrogen content from all fields where process wastewater, manure, or other process wastes will be applied. Monitoring results, including all laboratory reports, shall be included in the Annual Monitoring Report. Soil samples shall be collected and analyzed in accordance with the protocols identified pursuant to item 6 of Attachment C of Order No. ____.

Discharge and Surface Water Monitoring

6. The Discharger shall record the date and the approximate time and volume of each discharge or storm-related discharge that results in off-property discharges of wastes or storm water that has commingled with process wastewater or manure, and the approximate duration and amount of wastes discharged. Such discharges shall be reported in accordance with Reporting Requirement B.1 or B.2 below as appropriate.

7. During or immediately after any overflow or other discharge of pollutants from a manure or process wastewater storage, retention pond, or land application area, whether or not authorized by this permit, the Discharger shall collect samples of the discharge and, if the discharge is to surface water or a tributary to surface water, surface water upstream and downstream of the discharge. The Discharger shall record the estimated volume of the discharge and the date and time of the discharge. Field measurements and laboratory analyses of these samples shall include the following (as noted in the 31 December 2003 USEPA *NPDES Permit Writer's Guidance Manual and Example NPDES Permit for Concentrated Animal Feeding Operations* to comply with Title 40 CFR requirements for all NPDES):

Constituent	Units	Type of Sample	Frequency
Volume	Gallons	Estimate	Daily
Temperature	Degrees	Grab - Field	Daily
pH	pH units	Grab - Field	Daily
Electrical Conductivity	μmhos/cm	Grab - Field	Daily
BOD_5[1]	mg/l	Grab - Laboratory	Daily
Total Suspended Solids	mg/l	Grab - Laboratory	Daily
Total Coliform	MPN/100 ml [2]	Grab - Laboratory	Daily
Fecal Coliform	MPN/100 ml [2]	Grab - Laboratory	Daily
Ammonia-nitrogen (unionized)	mg/l	Grab - Laboratory	Daily
Nitrate-nitrogen	mg/l	Grab - Laboratory	Daily
Kjeldahl-nitrogen	mg/l	Grab - Laboratory	Daily
Phosphorus	mg/l	Grab - Laboratory	Daily
Total Dissolved Solids	mg/l	Grab - Laboratory	Daily

[1] Five-day Biochemical Oxygen Demand
[2] Five dilutions minimum

Note: If conditions are not safe for sampling, the Discharger must provide documentation of why samples could not be collected and analyzed. For example, the Discharger may be unable to collect samples during dangerous weather conditions (such as local flooding, high winds, tornados, electrical storms, etc.). However, once

the dangerous conditions have passed, the Discharger shall collect a sample from the waste management unit from which the discharge occurred.

Storm Water Monitoring

8. During the first two years of the term of Order No.___, the Discharger shall characterize the quality of storm water by conducting the following monitoring for any discharges of storm water from the production area to surface water:

a. Collect and analyze grab samples of discharges of storm water from at least two storm events per wet season. The first sample should be from the first storm of the wet season that produces significant storm water discharge and the second from a midseason storm that is preceded by at least three days of dry weather. The sample(s) should be taken during the first thirty minutes of the discharge. Samples must be representative of the quality and quantity of storm water discharged. The samples shall be analyzed for:

Constituents	Units	Station [1]	Sampling Frequency
Flow	Gallons/Date	TBA	Per Storm[2]
Temperature	°F	TBA	Per Storm
BOD	mg/l	TBA	Per Storm
Ammonia	mg/l	TBA	Per Storm
Total Kjeldahl Nitrogen	mg/l	TBA	Per Storm
Nitrate	mg/l	TBA	Per Storm
Total Dissolved Solids	mg/l	TBA	Per Storm
Electrical Conductivity	µmhos/cm	TBA	Per Storm
Turbidity	NTU	TBA	Per Storm
Rainfall	inches	TBA	Per Storm

[1] To be announced by the Discharger

[2] The Discharger shall sample two storms during the wet season where runoff occurs

b. Conduct an annual inspection of the CAFO to identify areas contributing pollutants to discharges of storm water associated with the CAFO and to evaluate whether measures to reduce pollutant loadings are adequate and properly implemented or whether additional controls are needed. A record of the annual inspection must include the date, the individual(s) who performed the inspection, and their observations.

c. No less than twice during the dry season (May through September), observe and/or test for the presence of non-storm water discharges at all storm water discharge locations. At a minimum, a visual inspection shall be conducted to determine the presence of stains, odors, debris, or other conditions that may indicate a discharge.

d. Conduct wet season (October through April) observation of all storm water locations during the first hour of the first storm event of the wet season that produces significant storm water discharge (continuous discharge of storm water for one hour or more) to observe the presence of floating and suspended materials, discolorations, turbidity, odor, etc.

e. Report any event (i.e., overflows, spills, or leaks) during the year that could contribute pollutants to storm water runoff and modify the sampling plan for the most probable constituents expected.

f. Record observations made under 8.b, 8.c, and 8.d above and include the observation results in the annual storm water report.

g. Provide documentation in the annual storm water monitoring report (required in the Reporting Requirement B.5 below) if no significant discharges of storm water occur or if unable to collect any of the required samples or perform visual observations due to adverse climatic conditions.

Groundwater Monitoring

9. Quarterly monitoring of first encountered groundwater will be used to determine compliance with the groundwater limitations of Order No.___. Those Dischargers required to install monitoring wells in Order No.___ shall install sufficient monitoring wells to characterize groundwater flow direction and gradient beneath the site and natural background (unaffected by the Discharger or others) groundwater quality upgradient of the facility and groundwater quality downgradient of the corrals, retention ponds, and land application areas. It may be necessary to install more than one upgradient monitoring well (i.e., for the production area and the land application area). The Executive Officer may require more extensive monitoring based on site-specific conditions. Monitoring shall include measurement of the depth to groundwater to the nearest 0.010 foot in each monitoring well, sample collection from all wells, and analysis of the samples for total coliform (MPN/100 ml), iron (mg/l), manganese (mg/l) and the same constituents that Monitoring Provision A.4 above requires for process wastewater.

A sufficient number of water supply wells shall also be included in the monitoring program to characterize the quality of water being used at the site.

10. The Executive Officer may require groundwater monitoring at CAFOs other than those specified in Order No.___ at any time. Such requirement may occur, for instance, if violations of this Order are documented and/or the CAFO is located in a high-risk area, i.e., where a sole-source aquifer is, or may be, impacted.

11. Prior to installation of monitoring wells, a Monitoring Well Installation Plan (MWIP) and schedule prepared under the direct supervision of, and certified by, a California registered civil engineer or geologist with experience in hydrogeology shall be submitted to the Executive Officer according to the Schedule of Task K.2 in Order No. ____. In addition to making the certification required in General Reporting Requirements C.10 of the Standard Provisions and Reporting requirements of Order No. ___, the registered professional preparing this report must make the following certification:

    "I certify under penalty of law that the monitoring well network proposed in this Monitoring Well Installation Plan is designed to provide early detection of impacts by CAFO facilities and operations on the quality of first encountered groundwater downgradient of the corrals, retention ponds, and land application areas and to characterize natural background water quality (unaffected by the Discharger or other discharges)."

12. All monitoring wells shall be constructed in compliance with Standard Provisions B.24 and B.25 of the Standard Provisions and Reporting Requirements (SPRR), which are attached to Order No.___. The destruction of any monitoring wells or groundwater supply well shall be in compliance with Standard Provision B.24 of the SPRR.

13. Dischargers shall submit to the Executive Officer a Monitoring Well Installation Completion Report (MWICR) prepared under the direct supervision of, and certified by, a California registered civil engineer or geologist with experience in hydrogeology in accordance with the Schedule of Tasks K.2 in Order No. _____. In addition to making the certification required in General Reporting Requirements C.10 of the Standard Provisions and Reporting requirements of Order No. ___, the registered professional preparing this report must make the following certification:

    "I certify that the monitoring well installation network for this CAFO will provide early detection of impacts by this CAFO on the quality of first encountered groundwater downgradient of the corrals, retention ponds, and land application areas and that it is sufficient to characterize natural background groundwater quality (unaffected by the Discharger or other discharges)."

    If the registered professional evaluating the initial data cannot make the above certification without data from additional wells, additional wells shall be installed until the registered professional can make this certification.

Operation and Maintenance

14. The Discharger(s) shall keep operation and maintenance records of activities conducted as part of the process wastewater and manure solids management at the facility. The Discharger(s) shall inspect any cropland on which process wastewater is applied daily during each irrigation event, and shall make records of those inspections. The operation and maintenance records shall include the following.

    a. Conditions of process wastewater and settling pond levees, and cropland berms, including rodent holes, piping, and bank erosion;

    b. Descriptions of erosion, field saturation, runoff, or the presence of nuisance conditions in the cropland;

    c. Dates, location, and approximate volume of process wastewater irrigation;

    d. Dates, location, and approximate weight and moisture content of manure application to cropland;

    e. Weather conditions at the time of and 24 hours prior to and following waste application;

    f. Identification of crop, acreage, and dates of planting, and harvest;

    g. Steps and dates steps taken to correct unauthorized releases as reported in accordance with Reporting Requirement B.1 or B.2 below as appropriate;

    h. Dates and descriptions of maintenance activities associated with levee or berm repair; and

    i. Each manure hauling event on a Manure Tracking Manifest form (Attachment E), which requires information on the manure hauler, destination of manure, dates hauled, and amount hauled, as well as certification.

    The Discharger shall provide the information in c, d, e, f, g, and i above in each Annual Monitoring Report.

Record-Keeping Requirements

15. Dischargers shall maintain on-site for a period of five years all information required in Title 40 Code of Federal Regulations (CFR) Section 412.37(b) for the production area and in Section 412.37(c) for the land application area (see Attachment B of Order No.___). Such information includes, but is not limited to, analyses of manure, process wastewater, and soil sampling. Analyses of discharges, surface water, storm water, and groundwater shall also be maintained on-site for a period of five years.

General Monitoring Requirements

16. The Discharger shall comply with all the "Requirements Specifically for Monitoring Programs and Monitoring Reports" as specified in the Standard Provisions and Reporting Requirements.

17. All analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services. All laboratory analyses shall be conducted in accordance with the Title 40 CFR Part 136 (*Guidelines Establishing Test Procedures for the Analysis of Pollutants*) or other test methods approved by the Regional Board.

B. REPORTING REQUIREMENTS

Noncompliance Reporting

1. The Discharger shall report any noncompliance that endangers human health or the environment or any noncompliance with the Prohibitions A.1, A.2, A.3, A.5, A.7, A.8, and A.9 in Order No. ____, within 24 hours of becoming aware of its occurrence. The incident shall be reported to the Regional Board Office, local environmental health department, and to the California Office of Emergency Services (OES). During non-business hours, the Discharger shall leave a message on the Regional Board's voice mail. The message shall include the time, date, place, and nature of the noncompliance, the name and number of the reporting person, and shall be recorded in writing by the Discharger. The OES is operational 24 hours a day. A written report shall be submitted to the Regional Board office within five (5) business days of the Discharger becoming aware of the incident. The report shall contain a description of the noncompliance, its causes, duration, and the actual or anticipated time for achieving compliance. The report shall include complete details of the steps that the Discharger has taken or intends to take, in order to prevent recurrence. All intentional or accidental spills shall be reported as required by this provision. The written submission shall contain:

    a. The approximate date, time, and location of the noncompliance;

    b. A description of the noncompliance and its cause;

    c. The flow rate, volume, and duration of any discharge involved in the noncompliance;

    d. The amount of precipitation (in inches) the day of the discharge and for each of the seven days preceding the discharge;

    e. A description (location; date and time collected; field measurements of pH, temperature, and electrical conductivity; sample identification; date submitted to laboratory; analyses requested) of noncompliance discharge samples and/or

surface water samples taken upstream and downstream of the point of noncompliance discharge. The analyses required are specified in Monitoring Provision A.7.

f. The period of noncompliance, including dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and

g. A time schedule and a plan to implement corrective actions necessary to prevent the recurrence of such noncompliance.

The laboratory analyses of the noncompliance discharge sample and/or upstream and downstream surface water samples shall be submitted to the Regional Board office within 45 days of the discharge.

Discharge and Surface Water Reporting

2. The Discharger shall report any discharge from the production area or the land application area, whether authorized or not, within twenty-four hours of becoming aware of the discharge. The incident shall be reported to the Regional Board. During non-business hours, the Discharger shall leave a message on the Regional Board's voice mail. The message shall include the time, date, and place of the discharge, the name and phone number of the reporting person, and shall be recorded in writing by the Discharger. A written report shall be submitted to the Regional Board office within five (5) business days of the Discharger becoming aware of the incident. The report shall include:

   a. The approximate date, time, location, and cause of the discharge, including a description of the flow path to any receiving water body;

   b. The estimated flow rate, volume, and duration of the discharge;

   c. The amount of precipitation (in inches) the day of the discharge and for each of the seven days preceding the discharge;

   d. A description (location; date and time collected; field measurements of pH, temperature, and electrical conductivity; sample identification; date submitted to laboratory; analyses requested) of discharge samples and surface water samples taken upstream and downstream of the point of discharge if the discharge was to surface water. The analyses and provisions required are specified in Monitoring Provision A.7.

   The laboratory analyses of the discharge sample and/or upstream and downstream surface water samples shall be submitted to the Regional Board office within 45 days of the discharge.

Annual Reporting

3. By **1 February** of each year, an annual monitoring report for the previous year shall be submitted to the Executive Officer. The annual report shall be completed on an annual report form provided by the Executive Officer (available on the Regional Board website) and shall include all the information required in Title 40 CFR Section 122.42(e)(4) as specified below.

   a. Number and type of animals, whether in open confinement or housed under roof;

   b. Estimated amount of total manure and process wastewater generated by the CAFO in the previous 12 months (tons/gallons);

   c. Estimated amount of total manure and process wastewater transferred to other persons by the CAFO in the previous 12 months (tons/gallons);

   d. Estimated amount of each type of chemical used in the production area in the previous 12 months;

   e. Total number of acres and the Assessor Parcel Numbers for land application covered by the nutrient management plan;

   f. Total number of acres and the Assessor Parcel Numbers under control of the CAFO that were used for land application of manure and process wastewater in the previous 12 months;

   g. Summary of all manure and process wastewater discharges from the production area that have occurred in the previous 12 months, including date, time, and approximate volume; and

   h. A statement indicating whether the current version of the CAFO's nutrient management plan was developed or approved by a certified nutrient management planner as specified in the Required Reports and Notices I.3.b of Order No. ____.

   The annual report shall also include: copies of all manure tracking manifests for the reporting period; copies of all laboratory analyses of manure and process wastewater, soil, discharges, surface water, and storm water; and all other information required in Monitoring Provision A.14.c, d, e, f, g, and i above.

Groundwater Reporting

4. The Discharger shall report the results of all groundwater monitoring semi-annually. The groundwater monitoring reports shall be submitted by **1 February** and **1 August** of each year and shall include all laboratory analyses and tabular and graphical summaries of the monitoring data. Data shall be tabulated to clearly show the sample dates, constituents analyzed, constituent concentrations, detection limits, depth to

groundwater, and groundwater elevations. Graphical summaries of groundwater gradients and flow directions shall also be included. Each groundwater monitoring report shall include a summary data table of all historical and current groundwater elevations and analytical results. The groundwater monitoring reports shall be certified by a California registered professional as specified in General Reporting Requirements C.8 of the Standard Provisions and Reporting Requirements of Order No. ____.

Storm Water Reporting

5. The Discharger shall submit an annual report by **1 October** of each year which details the Discharger's preparation for the upcoming wet season. The annual report shall include the results (including the laboratory analyses) of all samples of storm water, inspections and observations required in Monitoring Provisions A.8.a – g above, a summary of events during the year that contributed pollutants to storm water runoff as required in Monitoring Provisions A.8.e above, and any modifications made to the facility or sampling plan in response to pollutants detected in storm water.

6. The 1 October 200__ **[the second year storm water report]** storm water report shall include an assessment of the first two years of storm water monitoring. If the first two years of storm water monitoring indicates pollutants have not been detected in storm water samples, the Discharger may propose to the Executive Officer to discontinue storm water monitoring.

General Reporting Requirements

7. Prior to transferring manure or process wastewater to other persons, Dischargers must provide the recipient of the manure or process wastewater with the most current nutrient analysis (required in Monitoring Provisions A. 4 above).

8. The results of any monitoring conducted more frequently than required at the locations specified herein shall be reported to the Regional Board.

9. Each report shall be signed by the Discharger or a duly authorized representative as specified in the General Reporting Requirements C.7 of the Standard Provisions and Reporting Requirements (SPRR), and shall contain the following statement:

"*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*"

10. For facilities in Fresno, Kern, Kings, Madera, Mariposa, and Tulare counties, submit reports to:

    California Regional Water Quality Control Board
    Central Valley Region
    1685 E Street
    Fresno, CA 93706
    Attention: Confined Animal Regulatory Unit

    For facilities in Butte, Lassen, Modoc, Plumas, Tehama, and Shasta counties, submit reports to:

    California Regional Water Quality Control Board
    Central Valley Region
    415 Knollcrest Drive, Suite 100
    Redding, CA 96002
    Attention: Confined Animal Regulatory Unit

    For facilities in all other counties, submit reports to:

    California Regional Water Quality Control Board
    Central Valley Region
    11020 Sun Center Drive #200
    Rancho Cordova, CA 95670-6114
    Attention: Confined Animal Regulatory Unit

ORDERED BY: _____
THOMAS R. PINKOS, Executive Officer

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Date